

[System and Method for Nondestructive Testing Simulation]

Abstract

The system and method provides an NDT inspector with a realistic simulation of inspecting a test piece while injecting virtual flaws for display on an NDT instrument, while also presenting actual flaws to the inspector. A conventional NDT test probe and instrument are connected to the system at the probe leads interface. The system provides means for monitoring probe position and probe liftoff, means for storing virtual flaw signals and associated locations on a test piece, and means for providing a virtual flaw signal to the NDT instrumentation to simulate the response of the actual probe. The invention provides for nondestructive test method qualification and probability of detection determination, for establishing and maintaining nondestructive testing proficiency of inspectors, for periodically presenting flaw signals to inspectors during routine inspections, and for ensuring sufficient scan coverage for detection of material defects in a test piece.